

SHORT COMMUNICATION

A new combination in Australian Costaceae

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Costus potierae F.Muell. has long been recognised as an endemic Australian understorey herb from lowland tropical rainforest in far northern Queensland. The type was described from material found in the Tully region, and the species also occurs rarely in the Daintree region, and on Dauan and Moa Islands in the Torres Strait. The current status of this species under the *Queensland Nature Conservation Act 1992* is endangered. In Maas (1979) *C. potierae* was placed as a synonym under *Costus speciosus* Sm. In the *Flora of Australia* treatment of Costaceae, Smith (1987) maintained *C. potierae* as a species distinct from the widespread Asian species *C. speciosus* based on the yellow rather than white flowers and distinctly smaller labellum. Within Australian herbaria *C. potierae* is recognised as a distinct taxon, with *C. speciosus* regarded as misapplied to this species (*Australian Plant Census*, 2010).

Recent molecular work on Costaceae has been equivocal in assessing the phylogenetic placement of *C. potierae*. A recent generic treatment of Costaceae (Specht and Stevenson 2006) based on phylogenetic analysis of molecular (ITS, *trnL-F*, *trnK* including the *matK* coding region) and morphological data (Specht 2006) reclassified Costaceae to include three new genera, with *C. speciosus* and two other species included under *Cheilocostus* with a recorded distribution in South East Asia through Malesia to New Guinea. The sampling protocol of this study did not include material of *C. speciosus* from Australia or material of *C. potierae*.

We included *trnL-F* and partial *matK* sequences (GenBank accession numbers HQ234747 and HQ234748) for *C. potierae* (A. Ford 3805, CNS) and reanalysed TreeBASE Matrix accession M25114, the data of Specht (2006), using the same parameters as in the original analyses. Results of the parsimony jackknife analyses (jk) included *C. potierae* within the *Cheilocostus* clade of Specht (2006) with moderate support (jk = 78) with three exemplars of *C. speciosus* (jk = 62) and *Costus lacerus* Gagnepain. Relationships between the three species within this clade were unresolved.

While the exact relationships of *C. potierae* within the *Cheilocostus speciosus* species complex require further investigation we follow recent taxonomic treatments and assessments (Smith 1987, Bostock and Holland 2007, *Australian Plant Census*, 2010) that maintain *Costus potierae* as a separate species, and consequently transfer it to *Cheilocostus*, which requires the following new combination:

Cheilocostus potierae (F.Muell.) Harrington & Zich, comb. nov.

Costus potierae F.Muell., *Fragmenta Phytographiae Australiae* 4(27): 164 (1864).

Type: Rockingham Bay, Qld, 17 Apr. 1864, J. Dallachy s.n. (MEL92956A); lecto: MEL, fide R. M. Smith, *Fl. Australia* 45: 453 (1987).

References

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